

What is claimed is:

1. In combination, a fitment and a flexible container comprising:
  - a lower fitment member having a top surface with a fluid conducting opening;
  - a wall of said flexible container disposed onto said top surface of said lower fitment member; and
  - an upper fitment member having an upper fitment top surface, an upper fitment bottom surface and an upper fitment conduit aligned with said fluid conducting opening and disposed onto said top surface of said lower fitment member forming a fitment, said fitment being attached to said wall of said flexible container by mechanical compression.

2. The combination of Claim 1 wherein said upper fitment member further includes a septum in axial alignment with said upper fitment conduit.

15 3. The combination of Claim 2 wherein said septum is made of a resilient material.

4. The combination of Claim 1 wherein top surface of said lower fitment member and said bottom surface of said upper fitment member have a layer of resilient material disposed thereon.

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5. The combination of Claim 1 wherein said fitment further comprising at least a fitment gasket positioned between said top surface of said lower fitment member and said bottom surface of said upper fitment member.

6. The combination of Claim 1 wherein said upper fitment member includes an elongated tube extending from said upper fitment top surface and axially aligned with said upper fitment conduit.

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7. The combination of Claim 1 wherein said lower fitment member includes one or more posts extending from said top surface and wherein said upper fitment member includes at least an equal number of post receiving openings.

10 8. The combination of Claim 7 wherein said upper fitment member is fused to said one or more posts of said lower fitment member.

9. The combination of Claim 1 wherein said lower fitment member and said upper fitment member are made of a material having low gas permeability.

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10. The combination of Claim 9 wherein said material is an acrylonitrile methyl acrylate copolymer.

11. An extended shelf life fitment and flexible bag combination comprising:

20 a first flexible bag containing a first material;  
a second flexible bag containing said first flexible bag, said second flexible bag containing a second material between said first flexible bag and said

second flexible bag, said second material capable of minimizing any changes in the characteristics of said first material;

a fitment with a fluid passageway connected to a surface of said first flexible bag and said second flexible bag, said fitment comprising:

5           a lower fitment member having a top surface and a fluid conducting opening, said lower fitment member being on the inside of said first flexible bag; and

an upper fitment member having an upper fitment top surface, an upper fitment bottom surface and an upper fitment fluid opening,

10           said upper fitment bottom surface being disposed on said lower fitment top surface with said second flexible bag therebetween and said upper fitment fluid opening in axial alignment with said fluid conducting opening of said lower fitment member, said fitment being mechanically compressed together forming a fluid tight seal wherein said lower fitment member and said upper fitment member

15           are made of a low gas permeable material.

12. The combination of Claim 11 further comprising a middle gasket disposed between said first flexible bag and said second flexible bag, said middle gasket opposed to said top surface of said lower fitment member

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13. The combination of Claim 11 wherein said fitment further includes a septum within said fluid passageway.

14. The combination of Claim 11 wherein said lower fitment member has at least one post that extends through said first flexible bag, said second flexible bag, and into at least an equal number of post receiving openings in said upper fitment member, said at least one post being bonded to said upper fitment member.

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15. The combination of Claim 11 wherein said top surface of said lower fitment member has a layer of resilient material disposed thereon.

16. The combination of Claim 11 wherein said bottom surface of said upper fitment member has a layer of resilient material disposed thereon.

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17. The combination of Claim 11 further comprising at least one of a lower fitment gasket positioned between said top surface of said lower fitment member and said first flexible bag and an upper fitment gasket positioned between said bottom surface of said upper fitment member and said second flexible bag.

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18. The combination of Claim 12 further comprising at least one of a lower fitment gasket positioned between said top surface of said lower fitment member and said first flexible bag and an upper fitment gasket positioned between said bottom surface of said upper fitment member and said second flexible bag.

19. The combination of Claim 11 wherein said upper fitment member further includes an elongated tube extending from said upper fitment top surface, said elongated tube being in axial alignment with said fluid passageway.

5       20. The combination of Claim 19 wherein said fitment further includes a septum within said fluid passageway.

21. The combination of Claim 11 wherein said low gas permeable material is an acrylonitrile methyl acrylate copolymer.

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22. A method of providing an improved flexible bag and fitment combination, said method comprising:

obtaining a fitment having a lower fitment member with a top surface and a fluid conducting opening in said top surface, an upper fitment member having an upper fitment bottom surface with an upper fitment fluid opening;

15       positioning said top surface of said lower fitment member on one side of a wall of said flexible container;

positioning said upper fitment bottom surface of said upper fitment member on 20 the opposite side of said wall and opposed to said lower fitment member wherein said upper fitment fluid opening is axially aligned with said fluid conducting opening of said lower fitment member;

compressing said lower fitment member and said upper fitment member together; and

securing said lower fitment member and said upper fitment member together forming a fluid tight seal with said flexible container.

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23. The method of Claim 22 further comprising coating at least one of said top surface and said upper fitment bottom surface with a resilient material.

10        24. The method of Claim 22 further comprising inserting at least one gasket between said top surface and said upper fitment bottom surface.

15        25. The method of Claim 22 wherein said obtaining step includes obtaining a fitment having a lower fitment member with one or more posts extending from said top surface and an upper fitment member with at least an equal number of post receiving openings configured to mate with said one or more posts.

26. The method of Claim 25 further comprising fusing said one or more posts to said upper fitment member.

20        27. The method of Claim 22 further comprising adding a septum to said upper fitment member wherein said septum is in axial alignment with said upper fitment fluid opening.

28. A method of increasing the shelf life of a fluid material packaged in a flexible bag, said method comprising:

obtaining a fitment made of a material with a low gas permeability, said fitment having a lower fitment member with a top surface and a fluid conducting opening in said top surface, an upper fitment member having an upper fitment bottom surface with an upper fitment fluid opening, said fluid conducting opening and said upper fitment fluid opening defining a fluid passageway;

positioning said top surface of said lower fitment member on one side of a flexible film, said flexible film being made of a multi-layered material having at least a barrier layer;

positioning said upper fitment bottom surface of said upper fitment member on the opposite side of said wall and opposed to said lower fitment member wherein said upper fitment fluid opening is axially aligned with said fluid conducting opening of said lower fitment member;

15 compressing said lower fitment member and said upper fitment member together;

securing said lower fitment member and said upper fitment member together forming a fluid tight seal with said flexible container; and

20 sealing peripheral edges of said flexible film forming a first flexible bag with a fitment thereon.

29. The method of Claim 28 further comprising coating at least one of said top surface and said upper fitment bottom surface with a resilient material.

30. The method of Claim 28 further comprising inserting at least one gasket between said top surface and said upper fitment bottom surface.

31. The method of Claim 28 wherein said obtaining step includes obtaining a fitment having a lower fitment member with one or more posts extending from said top surface and an upper fitment member with at least an equal number of post receiving openings configured to mate with said one or more posts.

32. The method of Claim 31 further comprising fusing said one or more posts to said upper fitment member.

15 33. The method of Claim 28 further comprising adding a septum to said fluid passageway.

34. The method of Claim 28 further comprising positioning a second flexible film between said top surface and said upper fitment bottom surface.

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35. The method of Claim 34 further comprising inserting a middle gasket between said first flexible film and said second flexible film at a position between said top surface and said upper fitment bottom surface.

5       36. The method of Claim 35 further comprising inserting a lower fitment gasket adjacent said top surface and an upper fitment gasket adjacent said upper fitment bottom surface.

37. A fitment kit for use with a flexible bag comprising:

10       a lower fitment member having a fluid conducting opening in a top surface of said lower fitment member; and  
an upper fitment member having an upper fitment bottom surface and an upper fitment opening, said upper fitment opening forming a fluid conduit with said fluid conducting opening of said lower fitment member, said  
15       upper fitment bottom surface and said top surface of said lower fitment member configured to form a mechanical seal between said lower fitment member, a wall of said flexible bag and said upper fitment member.

20       38. The kit of Claim 37 further comprising a septum configured to be positioned within said fluid conduit.